

# Strategy Development for the Ice Age

*"The theory of natural selection is grounded on the belief that each new variety, and ultimately each new species, is produced and maintained by having some advantage over those with which it comes into competition; and the consequent extinction of less-favored forms almost inevitably follows."*

**Charles Darwin**  
**On the Origin of Species (1859)**

*"By [the] time [of the Ice Ages] there were in existence several species of elephant ancestral to modern African and Indian elephants. To meet the rigors of the Ice Age some elephants developed a shaggy coat of hair, becoming eventually what we term mammoths... "During the Ice Ages several species of man already existed, contemporary with the mammoth... But they did not inherit shaggy coats and did not develop such to meet the crisis... Instead of undergoing the slow physical changes which eventually enabled the mammoths to endure the cold, our ancestors found out how to control fire and to make coats out of skins. And so they were able to face the cold as successfully as the mammoths."*

**V. Gordon Childe**  
**Man Makes Himself (1951)**

*"What recommends commerce to me is its enterprise and bravery. It does not clasp its hands and pray to Jupiter."*

**Henry David Thoreau**  
**(1817-1862)**

## 5.0 Introduction

If this monograph has thus far been persuasive, then, by this point, the Wireless Ice Age is more than a chilling metaphor and has become a fact or a set of conditions not, surely, to be welcomed, but certainly to be dealt with.

It has not been the point of the first four chapters of this monograph to spread despair, but rather, to suggest preparation for the coming reality. **It is not the point of the last two chapters of this monograph to suggest prayer and resignation as a strategy, but rather to offer suggestions for structuring a strategic and operational response to the new and dauntingly hostile conditions.**

Notwithstanding these disclaimers, it must be readily apparent that no advice can save all inhabitants of a world in which the food supply is simply inadequate for the size of population. **Still, it is the foundation of the thinking behind this monograph that those who gain the earliest and best understanding of the**

*"The world continues to offer glittering prizes to those who have stout hearts and sharp swords."*

**F.E. Smith,  
Earl of Birkenhead (1872-1930)**

*"Candidates should not attempt more than six of these."*

**(Suggested amendment  
to the Ten Commandments)  
Hilaire Belloc  
(1870-1953)**

*"[The law of competition] is here; we cannot evade it; no substitutes for it have been found; and while the law of competition may sometimes be hard for the individual, it is best for the race, because it ensures the survival of the fittest in every department."*

**Andrew Carnegie  
(1835-1919)**

*changes in the fundamental forces that will close the Golden Age of Wireless and bring on the Wireless Ice Age will be in the best position to respond to those changes successfully.*

On the other hand, such an understanding, however early and deep, cannot assure the survival of inhabitants who simply lack and cannot by any means acquire the bases for the creation of strategic advantage. Such inhabitants are doomed to extinction.

What then is required of the inhabitants of the Wireless Ice Age or at least of those who have the potential for survival? The answer to this question is, perhaps, best supplied in two forms: first, in terms of the Ice Age metaphor to draw upon the common notion of "the survival of the fittest," and second, in terms of strategic business analysis.

In terms of the metaphor, the following are the **Laws for Survival in the Ice Age:**

- I. The food supply is not large enough to support all inhabitants.**
- II. To survive, inhabitants must fight successfully for more than their share of the food supply and, by so doing, assure the starvation of those who fight less successfully.**
- III. No two inhabitants can both survive if they fight for their share of the food supply in the same way, because one of them will have some advantage in that form of fighting and assure the extinction of the other inhabitant by depriving it of food.**
- IV. An inhabitant will survive only if it is able to fight for its share of the food supply using a strategy others cannot use or cannot use as well.**
- V. A strategy to fight for food must not only be better executable by an inhabitant in principle, but also better executed by that inhabitant in order to offer the prospect of survival.**
- VI. A strategy to fight for food must be aimed to capture enough food to assure survival or the most effective execution of that strategy would be pointless.**
- VII. Never lose access to stores of food (capital) in times of inadequate crop yields (annual revenue).**

The stark terms "fight," "extinction," and "survival" are not merely metaphorical. The Ice Age will see competition of an intensity never before witnessed in the Wireless World. The Ice Age could see actual business failures in an industry which has never really experienced serious difficulties. The Ice Age will make survival an issue in an industry in which the degree of or rate of increase in prosperity was often seen as the only question.

Political consideration may make extinction of certain PCS players not acceptable. In consequence, regulatory engineering may be utilized to assure their survival which would not otherwise be justified economically. The effect of such regulatory engineering would be to prolong the Ice Age agony.

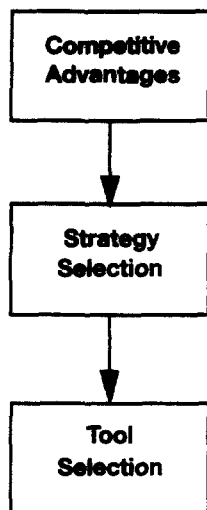
The Ice Age metaphor rests upon a very solid foundation and viewing the development and execution of business strategy in the context of the survival of the

fittest is, in no sense improper and will, in fact, focus the mind upon the high stakes involved.

In strict business terms, the following approach is utilized to organize thinking about the strategy development and execution by wireless carriers in the Ice Age.

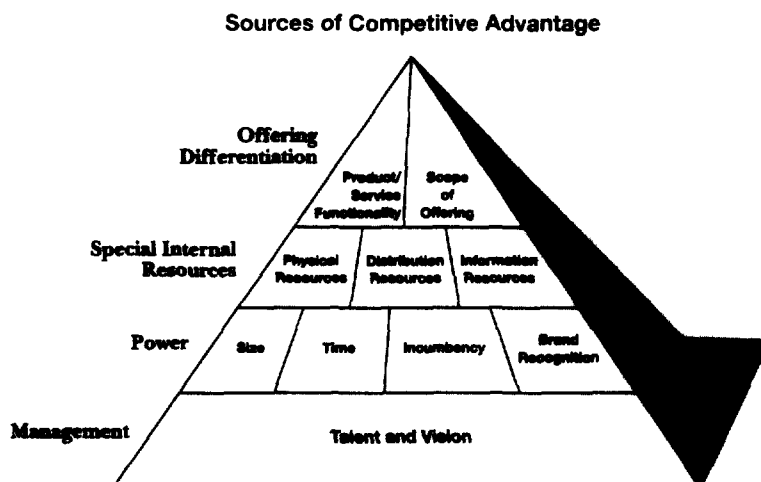
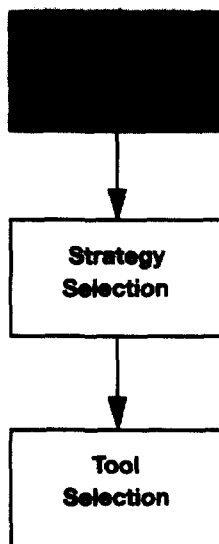
A competitor must:

- **Develop an understanding of the sources of competitive advantage in wireless telephony;**
- **Understand the operator's relative access to the sources of competitive advantage in the market concerned;**
- **Examine the extent to which the relative access of the competitors to the sources of competitive advantage can be altered;**
- **Determine whether it has, at least, the minimal level of access to the sources of competitive advantage necessary to enter the competition;**
- **Integrate the sources of competitive advantage into a chosen preliminary strategy;**
- **Establish that it can execute its chosen preliminary strategy more effectively than that strategy could be executed by any other competitor;**
- **Test whether the segment of the market (to which its chosen preliminary strategy is directed) is large enough to support its revenue requirements;**
- **Acquire or develop the operational tools, processes, and methods which assure the best execution of the chosen strategy;**
- **Recognize that sustaining competitive advantage requires constant improvement and change; and**
- **Act upon the realization that long-term survival requires not only a disproportional market share, but also access to capital to assure the continued viability to execute the chosen strategy.**



## 5.1 The Sources Of Competitive Advantage

Four sources of competitive advantage in wireless telephony exist: (i) the talent and vision of management, (ii) power, (iii) special internal resources, and (iv) product or service offering differentiation. This categorization is developed in greater detail in the figure below.



*"Where there is no vision, the people perish."*

**Bible, Proverbs 29:18**

*"Great is the hand that holds dominion over man by a scribbled name."*

**Dylan Thomas  
The Hand That Signed the Paper  
(1914-1953)**

*"God is always on the side of the big battalions."*

**Henri de la Tour d'Auvergne  
Vicomte Turenne  
(1611-1675)**

Each of the sources of competitive advantage are discussed below.

### **5.1.1 Sources of Competitive Advantage Associated With Management Talent and Vision**

The importance of management talent and vision cannot be overestimated. Knowledge of the design, implementation, operation, and marketing of mobile telephone systems is not innate. The increase in the number of competitors in the mobile telephone industry will require more skilled and experienced personnel than are presently available. Large organizations with substantial numbers of employees who are skilled in relation to wireless telephony or telecommunications in general have access to an important source of competitive advantage. Those organizations with truly visionary and talented leadership will surely be critically advantaged. **The vision and talent of management is, particularly in changing times and under hostile conditions, the foundation of any organization's effort to integrate access to the sources of strategic advantage into an effective strategy.**

### **5.1.2 Sources of Competitive Advantage Associated With Power**

**Four major sources of competitive advantage are associated with power: size, time, brand strength; and incumbency.**

#### **5.1.2.1 Size**

Size is one of the most important sources of competitive advantage. In the wireless industry, there are several methods for attaining this advantage. One of the most prevalent means for increasing one's size in the wireless industry has been acquisitions (e.g., the RBOC's acquisitions of out-of-region, non-wireline carriers). Other providers, such as PageNet, have attained a size advantage almost entirely through organic/internal growth. Other means of achieving a size advantage include: (i) partnering with firms both internal and external to the industry (e.g., inter-carrier agreements, alignments with software providers), (ii) integrating horizontally and vertically by acquisition or joint venture, and (iii) outsourcing functions which need not be carried out internally to take advantage of scale economies of the third-party processors.

The advantages deriving from size include:

- Economies of scale;
- Economies of scope; and
- Financial resources.

Size can provide purchasing power, and the scale of that power allows economies to be achieved, for example, in advertising, billing, product development, and overhead. Economies of scale translate into higher margins and a greater ability to price aggressively. In the intensely competitive Ice Age, economies of scale will be a critical source of the strength necessary to respond effectively to aggressive behavior on the part of competitors.

Size can make possible economies of scope which can reduce costs by sharing them among multiple product lines or increase revenue by leveraging geographic scope to gain an advantage. Utilizing a sales force to sell multiple products is an example of a cost-reducing economy of scope, and utilizing national or regional scope to effect alliances with major distribution channels which prefer to deal with fewer suppliers is an example of a revenue-increasing economy of scope. In times of revenue inadequacy, economies of scope can be particularly valuable.

Size often indicates access to financial resources, and financial resources will be critical to survival in the Ice Age. Financial resources not only provide the staying power to weather the harsh Ice Age conditions, but also supply the power to make those conditions still harsher for their competitors. Financial resources not only make withstanding aggressive price competition possible, but also permit a competitor to respond with even greater aggressiveness. Financial resources make possible the massive investments in infrastructure necessary to compete in wireless telephony, and also support even larger, preemptive commitments designed to drive competitive costs beyond the ability of some competitors to bear. In terms of the Ice Age metaphor, stores of food are particularly critical when crop yield is inadequate.

*"The difference between a gun  
and a tree is one of tempo. The  
tree explodes every spring."*

**Ezra Pound  
(1895-1972)**

#### 5.1.2.2 Time

Time or speed of delivering can also be a source of competitive advantage. A number of possibilities exist for translating time-based competition into an advantage. One possibility is to redesign processes to reduce the time (and the cost) it takes to accomplish critical tasks such as service order entry and provisioning. A second possibility is to decrease new product development cycle times to introduce more services faster and, thereby, increase marketing effectiveness. A third approach would be to engineer the company (e.g., its systems, structures, and culture) to respond rapidly to and take advantage of market and technology changes. Finally, the outsourcing of non-critical functions, such as collections and billing, will reduce the time to market and allow an operator to achieve economies of scale faster. The time-based advantage can be an important source of differentiation in a crowded competitive environment.

#### 5.1.2.3 Incumbency

Incumbency is itself a critical source of strategic advantage, but one which combines advantages which derive from multiple sources. The cellular telephone incumbents certainly have advantages deriving from preferred access to information resources, distribution resources and physical resources. They may have all of the advantages that can derive from size. Incumbency may not be a source of product or service superiority, but the fact of incumbency does provide a significant advantage in terms of time. **Of course, the most important sources of the incumbent's advantage are in terms of their customer base.**

#### 5.1.2.4 Brand Recognition

The reputation of a competitor can be a source of considerable strategic advantage,

*"How strong is the Chiquita name? How many banana commercials can you sing?"*

**An executive of the  
Chiquita Banana Company**

provided, however, that the reputation is positive. Few brand names are recognized in wireless telephony, and the RBOCs, which have strong brand recognition in some respects (particularly in-territory), have very little brand recognition as wireless service providers outside of their own territories.

### **5.1.3 Competitive Advantages Associated With Special Internal Resources**

**Special internal resources can include three distinct competitive advantages: physical resources; distribution resources; and information resources.**

#### **5.1.3.1 Physical Resources**

Preferred access to physical resources will be another important source of competitive advantage. Such preferred access can take many forms. For example, in the early stages of PCS network construction, network infrastructure providers may not be able to meet the demand for equipment. Those competitors which can obtain assurance of delivery of infrastructure components will have an advantage. (The advantage may, of course, be seen as deriving from time or from size if the preferred access arose from large prior purchases.)

**Preferred access to antenna sites, interconnection facilities, and other physical resources can provide competitive advantage as well. The nature of the advantage will depend upon whether the preference is measured in terms of price or in terms of exclusive or earlier access.**

#### **5.1.3.2 Distribution Resources**

Access to customers, either directly or by reason of access to distribution channels, is an additional vital source of competitive advantage. Competitors which already have billing relationships with the customers to whom they intend to offer wireless telephony services may be able to effect significant reductions in marketing and sales cost. Competitors which have relationships with relevant distribution channels may similarly be able to effect such savings. However, the advantage inherent in such access is not expressed only in terms of cost savings. Subscriber growth may be the more important direct advantage of preferential access to distribution resources.

#### **5.1.3.3 Information Resources**

Access to information, particularly information concerning customers, can provide significant competitive advantage. Customer lists, information concerning credit, demographic information, and information concerning buying practices can all be used to increase marketing effectiveness. Additionally, quick access to customer information by customer service representatives, knowledge of a customer's wants and needs, and complete and accurate billing information can prove to be effective in reducing a company's churn. If preferential access to such information is available to a particular competitor, competitive advantage can be created

*"There are only two ways of getting on in this world; by one's own industry, or by the weaknesses of others."*

**Jean de La Bruyère  
(1645-1696)**

#### 5.1.4 Sources of Competitive Advantage Associated With Offering Differentiation

Two sources of competitive advantage are a type of offering differentiation: **functionality and scope of offering.**

##### 5.1.4.1 Functionality

Product and service superiority expressed in terms of greater functionality is another important source of competitive advantage. **Cellular telephone service had not been exemplary in quality, and much room exists for the creation of competitive advantage simply in providing a service with fewer blocked calls, fewer dropped calls, and less cross-talk.** Functionality will also be measured in terms of coverage, features, and, the integration of voice, data, and information services.

The primary drivers of product and service superiority as a source of advantage will be quality and technical superiority which can serve to protect price (maintain price levels at a premium) or to attack the competition with more value at the same price level. Delivering demonstrably superior service on attributes of concern to customers, such as coverage and network quality, will attract customers willing to pay a premium. Similarly, providing greater functionality (e.g., integrated services) should yield an ability to charge a premium.

##### 5.1.4.2 Scope of Offering

The scope of the service offering can be an important source of competitive advantage. Consumer market research has repeatedly indicated that a sizable segment of customers will prefer to buy a broader packages of services from a single preferred provider. While some of the appeal lies in the consumer expectation that the provider will offer discount price of the package, there is clear intrinsic appeal in the *breadth* of the offering. The customer can elect to receive a single bill and have a single vendor to contact, and all of the purchases can be made from the vendor best meeting the consumer's service preferences.

## 5.2 Competitors' Relative Strengths and Weaknesses

Based upon its understanding of the sources of competitive advantage, a competitor must reach an objective assessment of the relative access to the sources of competitive advantage of the competitors. Since competitors in each market will be different, the competitive dynamics could shift dramatically from market to market.

The table in the chart on the next page is illustrative of a method of organizing the competitive assessment process and records certain very tentative conclusions about each group's potential to establish strategic advantage as a result of their access to the sources of such advantage. The table, by necessity, is not market-specific and must be made so to be useful.

### Preliminary Competitive Assessment

	AT&T	Wireless Co.	PCS Prime Co.	RBOC/ GTE Cellular	RBOC/ GTE PCS	Designated Entities	Independents
Management Talent and Vision	●	●	●	●	●	?	?
Size							
Economies of Sales	●	●	●	●	●		
Economies of Scope	●	●		●/?	●/?		
Financial Resources	●	●	●	●	●	?	?
Functionality	?	?	?	?	?		?
Time	?	?		?	?		?
Physical Resources	●	●	●	●	●		●
Information Resources	●	●		●	?		?
Distribution Resources	●	●	●	●	●		?
Brand Strength	●	?	?	●			
Incumbency	●/?	?		●	●		
Scope of Offering	●	●		●/?	●/?		

## 5.3 Alteration of Access to Sources of Competitive Advantage

A competitor's access to the sources of competitive advantage is not a fixed characteristic. Competitors can and do change their access to the sources of competitive advantage. **A competitor can change its access to these sources of competitive advantage rather quickly through acquisitions and partnerships.**

AT&T secured the advantages of incumbency by its acquisition of McCaw Cellular Communications. Sprint and its cable television partners have sought to maximize their respective strategic advantages by a pooling of their resources.

AirTouch, US West, Bell Atlantic, and NYNEX have sought to establish national presence by a pooling of their resources to support an aggressive PCS auction strategy and by an effort to maximize their incumbency advantage indirectly aggregating it from among the partners.

## 5.4 Minimal Level of Access to Sources of Strategic Advantage

No competitor should make an attempt to enter the wireless telephone market without determining that it has, at least, the minimal level of access to the sources of competitive advantage necessary to become an effective competitor (approximately three or more).

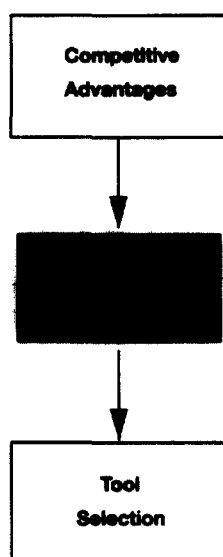


*"We are all strong enough to bear the misfortunes of others."*

**François, Duc de la Rochefoucauld**  
(1613-1680)

*"One of the first businesses of a sensible man is to know when he is beaten and to leave off fighting at once."*

**Samuel Butler**  
(1835-1902)



A competitor which has no superior access to a source of competitive advantage must necessarily fail and will probably do so quite quickly. No strategy at all can be formulated for a competitor in that position. A competitor which has superior access to inadequate sources of competitive advantage will fail in due course because no effective strategy can be developed for such a competitor.

Implicit in the decisions of a number of prominent wireless providers not to bid for many PCS licenses must be the recognition that, under the expected market conditions, a winning strategy could not be created (i.e., a strategy offering the reasonably certain prospect of an adequate return on capital).

In the face of the Ice Age, the hard-nosed realism implicit in those decisions is precisely what is called for. The enthusiasm of certain organizations for their PCS prospects suggests, in light of their lack of obvious access to the sources of competitive advantage, that their business plans have not been subjected to that required, hard-nosed realism.

## 5.5 Integration of the Sources of Competitive Advantage

Strategy development involves integrating the sources of advantage to which the competitor has preferential access into the optimal approach to the marketplace. The integration process is non-trivial. There are several sources of competitive advantages and a large number of ways in which a company can integrate them.

The process of integration in the wireless telephony industry tends to gravitate toward four themes which reflect the conditions of the Ice Age. The related prospects of intense price competition and inadequate revenue suggest that success requires:

- (i) being able to meet intense price competition better than any other competitor; or
- (ii) being able to avoid intense price competition by offering focused service superiority; or
- (iii) being able to avoid intense price competition by a broad service offering which cannot be compared easily with other wireless telephony offerings on the basis of price or product superiority; or
- (iv) being able to avoid intense price competition and reduce churn by maintaining customer relationships superior to those of the competitors.

These four themes reflect what would be the primary focus of a firm - where the firm will concentrate its resources. As such, these themes provide the basis for four strategies which are discussed below.

• **Lowest Cost Service** - The provider engineers its enterprise to offer a wireless telephony service of an acceptable quality at a cost lower than any of its competitors, allowing it to engage in price competition as it chooses. A provider supporting this strategy is preparing to compete in a commodity market.

• **Focused Service Superiority** – The provider concentrates on continuing development of its wireless service offerings, which offer noticeably superior value by reason of leadership in wireless service and product innovation. A provider supporting this strategy is attempting to avoid competing in a commodity market by staying one step ahead of the innovation-commoditization cycle (i.e., creating the next cycle).

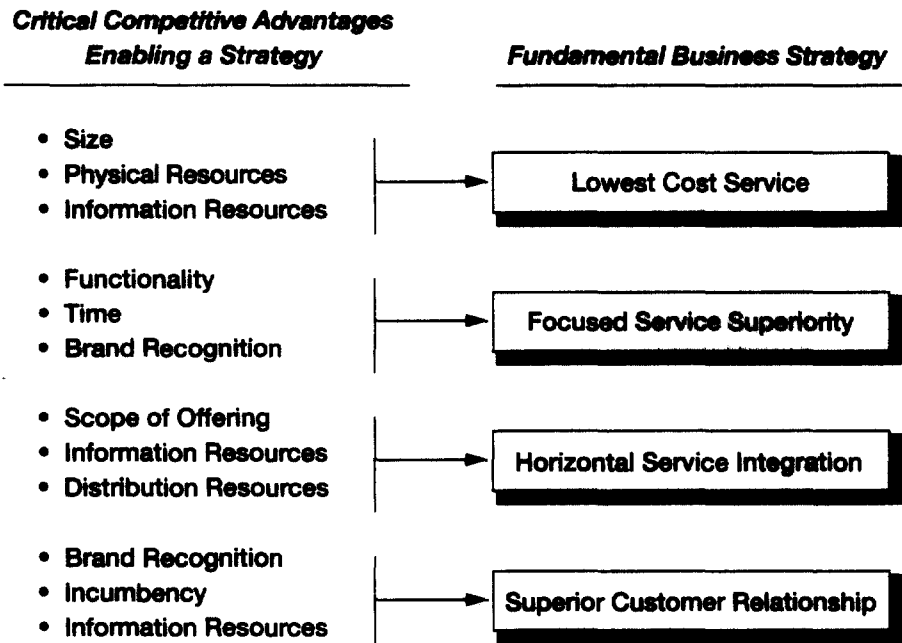
• **Horizontal Service Integration** – The provider focuses on its ability to bundle other services with the wireless products thereby offering a broad range of communications services. A provider supporting this strategy is attempting to redefine the industry in which it is competing by broadening the services it provides and hopefully narrowing the competition.

• **Superior Customer Relationship** – The provider focuses on managing every aspect of the customer interface, thereby reducing churn and attracting customers who value such a relationship. A provider supporting this strategy attempts to avoid competing in a commodity market by providing value to the customer in the form of a superior customer relationship.

While these strategies may not be the only ones available, they are among the alternatives that will likely emerge during the Wireless Ice Age. Each strategy tends to be enabled or enhanced by a particular set of competitive advantages, as shown in the figure below. The vision and talent of management are, of course, critical to all strategies.

*A hint of the price wars to come has recently emerged in the Boston and Chicago cellular markets, where, according to the Wall Street Journal of April 19, 1995, NYNEX and Ameritech "are engaged in cut-rate pricing in an attempt to improve their respective 25% market shares." This price cutting is a response to Southwestern Bell Corporation's (SBC's) increasing market dominance, a marked divergence from the approximate 50/50 market share split of the cellular industry during the Golden Age. So far, SBC has apparently refused to match prices, causing a 30% drop in its quarterly subscriber additions on a year-to-year basis during the first quarter of 1995.*

Integration of Competitive Advantage into a Strategy



The majority of companies operating in multiple geographic markets will find that their effective competitive advantages are distributed across several of

the strategies. In those cases, the effective execution of a chosen business strategy will obviously depend on the company's ability to develop and integrate the complete set of requisite competitive advantages.

**Although the four fundamental business strategies appear, upon initial examination, to be separate and distinct, in fact, they are not. In principle, there are elements common to more than one strategy.** The strategies are, in effect, named after their theme which is given the greatest weight in the strategy (i.e., its center of gravity), but other themes are not absent, only assigned lesser weight.

Thus, for example, delivering service at the lowest cost is obviously the central theme of the lowest cost strategy, but controlling costs is still quite important to the focused service superiority, horizontal service integration, and superior customer relationship strategies. Similarly, while wireless service and product functionality is critical to the focused service superiority strategy, functionality is hardly irrelevant to the low cost service, horizontal service integration, and superior customer relationship strategies. In practice, the suggested strategies may represent points on a continuum as strategy development can integrate the organizing themes with infinite variety.

#### **5.5.1 Lowest Cost Service**

The one true lowest cost provider of service, and there can only be one in any given market, will have several distinct advantages. The lowest cost provider of service will be able to set the low price in its markets subject to the willingness and ability of its competitors to operate at a loss. The low cost provider of service will have the greatest ability to react to price competition in its markets and will have higher margins (or smaller losses) than any other provider offering comparable functionality and service.

**The lowest cost service strategy recognizes that there is a large segment of the market that is not overly concerned with product and service innovations.** This market segment consists of customers who care primarily about a core set of features in the product offering and want those features delivered at a bargain price. Low price is obviously valuable in targeting that customer segment.

**Business and residential consumers attracted by low price will have minimum standards or expectations regarding product innovation and customer service, but their primary concern will be price.** Being the low cost service provider establishes the ability to make large cuts in price when the situation warrants, as well as small cuts over extended periods of time. Such larger and more dramatic cuts in price can have a considerable effect on the competition.

Driving out all costs that do not contribute extra value to the target customer is essential to successful execution of this strategy. **A company which pursues this strategy must be committed to both radical and continuous improvement across all of its business processes.** Driving out unnecessary costs requires the development of operations that are streamlined, standardized, and uniform. Operations such as order entry, order processing, receivables management, and customer care must be designed with a focus on maintaining maximum productivity and

effectiveness with a minimum number of people. A company which pursues this strategy must be committed to engineering its internal processes from the beginning with this focus in mind and maintaining that commitment as the company grows.

**All areas of operating costs must be evaluated and minimized, but particular attention must be given to the cost of acquiring customers.** Financial performance is very sensitive to customer acquisition costs, and that sensitivity increases with falling service pricing, such as will be in effect in the Ice Age. The present level of customer acquisition costs in the cellular telephone industry is simply too high for the service price levels which will exist in the Ice Age.

A competitor which is pursuing a lowest service cost strategy will have its main focus not on delivering the superior product or setting the lead in service innovation, but, rather, on more mainstream products and services that do not require high levels of specialized service and maintenance. A balance will need to be struck in this area. Bargain-basement priced products, combined with an inaccurate billing system, will drive up the cost of operations significantly as the provider is forced to expand customer care capabilities. Accordingly, the lowest service cost strategy must include an effort to minimize the number of customer service calls.

The ability of a competitor to utilize the lowest cost service strategy depends upon the superiority of its access to those sources of competitive advantage which translate into lower costs. Access to physical resources, information resources, and size are critical in this respect.

#### 5.5.2 Focused Service Superiority

A company which commits itself to a focused service superiority strategy not only believes that wireless services are a rapidly evolving market, but also embraces and encourages that trend. Many changes will take place in the wireless market. User needs and wants will be evolving. Technological advances will occur. New user devices will be developed. Improved network infrastructure technologies will become available. Rather than viewing these developments as problems, a wireless provider selecting this strategy must see in them the opportunity to create competitive advantage. That opportunity consists not only in introducing new products, but also in offering superior and valuable services and products substantially faster than the competition.

The focused service superiority strategy is based on there being a sufficiently robust base of potential customers for whom superior products and services are more important than price. The desired superiority may take many forms, but the essence of the focused service superiority strategy is focused in the wireless telephony dimension. **Focused service superiority is based upon the belief that the superiority of services and products in the wireless telephony dimension can be for many customers more important than price and more important than the convenience of packaged offerings which extend beyond wireless.**

*"We used to think that if we knew one, we knew two, because one and one are two. We are finding that we must learn a great deal more about 'and'."*

**Sir Arthur Eddington  
(1882-1944)**

Successful execution of this strategy requires investing a significant amount of resources into the product development stream. Many operators today do not explicitly recognize product development and introduction as key business processes in their enterprise. Operators exercising this strategy must do so. **They must engineer their corporation to achieve two primary objectives: (i) make new product roll-outs an everyday event and (ii) achieve a rapid time-to-market for new products.** In order to meet these objectives the enterprise - the network, business support systems, people, and business processes- must be viewed as a transaction engine and organized in such a way that recognizes and structures recurring business processes to facilitate their use in a variety of different circumstances. A new product is, therefore, simply another transaction to be run on the enterprise. A corporation can offer wireless POTS today and the "Universal Number Service" tomorrow.

Focused service superiority must not only secure, but must also sustain its competitive advantage over time. The strategy is most effective if it is executed relentlessly to maintain product and service leadership, rather than incrementally to make new offerings as competitors become able to match old ones. Continuing investment and the willingness to shorten the life cycle of older products are critical to this strategy.

The ability of a competitor to carry out a focused service superiority strategy depends upon the superiority of its access to those sources of competitive advantage which translate into or support the development of innovative services and products. Access to functionality, brand recognition, and time are critical sources of competitive advantage in this process.

#### **5.5.3 Horizontal Service Integration**

**Those providers which have other service delivery capabilities such as cable, long distance, local telephony, cellular telephony, or paging will be able to package services together and derive competitive advantages in the market.** The nature of the differential advantage created by service packaging will depend upon those core capabilities inherent in the company, but at the heart of the competitive advantage created by packaging is the value which the customer places upon the convenience of dealing with one source for multiple products and services. The horizontal service integration strategy depends upon the existence of a significant market segment which places greater value on the convenience of a single point of purchase, service, and billing than upon wireless product superiority. The horizontal service integration strategy can take the form of a price strategy, but one designed to avoid a service-by-service pricing comparison.

The ability of a competitor to carry out a horizontal service integration strategy depends upon its access to other relevant services and its ability to integrate the service offerings seamlessly in order to capture the element of convenience. The availability of packagable services has, of course, its source of superiority in the scope of the offering, although such scope can be secured through reselling

(e.g., as proposed by MCI) and partnership arrangements (e.g., Sprint and its cable partners), as well as internal capabilities (e.g., AT&T).

The ability of a competitor to carry out a horizontal integration strategy depends upon the superiority of its access to those sources of competitive advantage which allows a provider to differentiate itself by developing customized packages of previously disparate services aimed at specific industry segments that may have unique needs. Access to scope of offering, distribution resources and information resources are critical in this process.

#### **5.5.4 Superior Customer Relationship**

The superior customer relationship strategy, if executed correctly, will have the distinct advantage of having a lower customer churn rate than other competitors in the market. By managing every aspect of the customer relationship, this strategy enables an operator to "own the customer," thus raising the switching costs to the customer.

**The superior customer relationship strategy recognizes that there are customers who value a relationship with their service providers and prefer to do business with these operators.** As wireless services become more complicated, and customers become more dependent on their wireless service, the value of relationship between the provider and customer increases. Customers are likely to seek out providers with an excellent reputation and/or with people who can help them when needed. Executing this strategy for many customers could take as little as a good reputation, friendly and helpful service over the phone, and an absence of problems with the product. As products and services become more complex, however, an operator following this strategy will need to differentiate itself by the amount of time spent with the customer helping him or her to get the most value from the product and customizing or integrating the service into the customer's business or lifestyle.

**Developing customer-for-life programs is essential to this strategy.** Every contact with the customer must be treated as a moment of truth. All information known about the customer must be made readily available to the customer contact person and organized in a way that is most likely to be useful in supporting the joint objectives of the company and customer in their interaction. For example, if the customer has a problem, calls in, and resolution still pending, this information should be of paramount interest and visibility to the contact person. If the customer has been solicited for a new product, this fact should be known by the contact person. If the customer falls within a segment that has benefited from a new offering or configuration, an appropriate invitation to try the service should be offered.

Operators executing a superior customer relationship strategy also need to be able to serve small market segments efficiently. In order to accomplish this task, the providers need to view their service offerings not as fixed blocks of services, but rather as many small components which can be mixed and matched to meet the needs of the specific customer.

*"In a fight for survival, a tie or a split decision will simply not do."*

**Merle L. Meacham**  
(1920- )

*"Without victory, there is no survival."*

**Winston Churchill**  
(1874-1965)

One of the most critical risks of pursuing this strategy is that too many operators will claim to be customer-focused. No operator will find it easy to stand out in the early stages of competition. It takes time to demonstrate consistent customer responsiveness. Accordingly, those who choose this strategy must be prepared to make the commitment and have the patience to make the strategy work. The commitment can be defined in terms of the resources and investment to build the kind of flexible response capability necessary to attract and keep customers. **A primary example of such investments include sophisticated customer care systems that deliver detailed information on customers to front-line company representatives.**

The ability of a competitor to successfully execute a superior customer service strategy depends upon the superiority of its access to those sources of competitive advantage which translate into superior customer relationships. Information resources, brand recognition, and incumbency are critical in this respect.

## 5.6 Superiority in Execution

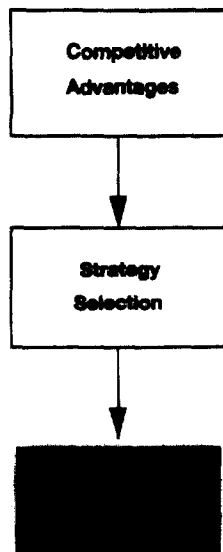
**A strategy will be effective for a particular competitor only if that competitor can execute that strategy more effectively than the competition.** Thus, for example, a lowest cost service strategy will not be effective for a competitor which does not have the lowest cost structure. For a competitor to choose a strategy in the execution of which it cannot attain and sustain superiority is nothing but a formula for failure – starvation or extinction in terms of the Ice Age metaphor.

Before a competitor finally chooses a strategy, it must be subjected to a competitive audit to establish that the competitor can execute the strategy better than its competition. The audit should consider, among other matters, whether the competitor has superior access to those sources of competitive advantage which are critical to the chosen strategy.

## 5.7 Strategic Sufficiency

A strategy, however well executed, will not be effective unless it is addressed to a sufficiently large segment of the market to provide the prospect of revenue adequacy for a particular competitor. Best execution is a necessary, but insufficient, condition for the effectiveness of a strategy. The sufficient conditions for the effectiveness of strategy are best execution, robustness, and value proposition (e.g., low price, product superiority) directed to a sufficiently large segment of the market and powerful enough to secure market share against alternative value propositions.

Before a competitor finally closes a strategy, it must be subjected to a **sufficiency audit** to establish the robustness of the strategy. The audit should include advanced modeling of market demand based upon primary market research and other market research methodologies designed to test the comparative appeal of the strategy's underlying value proposition and its durability.



## 5.8 Tool Acquisition

Since the emergence of *homo sapiens*, the making and use of tools have been that species' method of contending with challenges. The power of tools endures to this day, and tools (methods, techniques, processes) can be of considerable assistance in effective strategy execution.

The utility of particular tools depends, quite naturally, upon the strategy being pursued, as some tools are more relevant to one strategy than another. The table below shows the relative importance of methods, tools, and techniques for each of the strategies outlined above. Note that those techniques of "high" importance to all of the strategies are designated in blue.

Tools/Strategy Matrix

	Lowest Cost Service	Focused Service Superiority	Horizontal Service Integration	Superior Customer Service
<b>Customer Understanding</b>				
Market Decision Support Systems	Low	High	Medium	Medium
Market Analysis Modeling	Medium	High	High	High
<b>Customer Attraction</b>				
Distribution Management	High	High	High	High
Brand Enhancement	Medium	Medium	Medium	High
Database Marketing	High	High	High	High
<b>Customer Loyalty</b>				
Customer Loyalty Programs	Low	Medium	Medium	High
Customer Management Systems	Low	Medium	Medium	High
<b>Firm Operations</b>				
<b>Product Development Stream</b>				
Integrated Product Development	Low	High	Medium	Medium
<b>Revenue Stream</b>				
Revenue Assurance	High	Low	Medium	Low
<b>Operations Resources</b>				
<b>Information Technology Resources</b>				
Information Systems Planning	High	High	High	High
Automation Evaluation	High	Medium	Low	Medium
Enterprise Data Sharing	Low	Medium	High	High
<b>Organizational Resources</b>				
Organizational Alignment	High	High	High	High
Vendor/Partner Integration	Low	High	High	High

### 5.8.1 Tools for Improving Revenue Development

Given the fact that price levels will be determined by competition and will not likely be controllable by a particular competitor, the revenue development tools and techniques focus on the revenue factor which is most influenced by management's actions - net subscriber growth. Accordingly, the revenue development tools and techniques have been categorized in accordance with the purpose thereof.

- **Customer Understanding:** The providers must have a solid understanding of the customer segments which they will be targeting. The tools in this category will assist the provider in obtaining this understanding.



*For the lowest cost provider, the market analysis model can be maintained at a much higher product feature level to reflect the relatively limited number of options provided to customers. However, it is still important to understand what the basic feature/price trade-offs are for the targeted customer segment.*

*With competitors such as AT&T now in the wireless market, branding will play an increasingly important role. However, branding in isolation is nearly meaningless. Branding acquires power and offers strategic advantage only when it becomes a recognized symbol for value in the minds of prospective subscribers.*

- **Customer Attraction:** Once the target segments have been identified, the potential customers must be attracted to subscribe to and use the service. The tools in this category will assist the provider in obtaining the maximum benefit from its marketing activities.
- **Customer Loyalty:** With the customer churn rate expecting to be very high in the Ice Age, churn reduction will be critical for all providers. The tools and techniques in this category will assist providers to develop loyal customers and manage churn effectively.

#### 5.8.1.1 Tools for Customer Understanding

While most operators would say that they have segmented their markets, few have done the primary research needed to develop the rich understanding of market segments and price/feature trade-offs necessary to support their chosen strategy in the Ice Age. There are new approaches to understanding the customer which are non-linear, iterative, and oriented towards finding ways to change the rules of competition.

**Two tools which can assist a competitor with these approaches are marketing decision support systems and market analysis modeling.** Marketing decision support systems assist operators to obtain a superior knowledge of customer needs and to recognize emerging needs early. The relevant information can come from a wide variety of sources: focus groups and research studies, customer comments, customer usage patterns, success and failure of recent product innovations by customer segment, and related customer purchase behavior. Market analysis modeling assists an organization in understanding the value that different segments of market place on both current and future product features by ranking the demand for features across a range of prices.

#### 5.8.1.2 Tools for Customer Attraction

In the Wireless Ice Age, the relationship between the purchaser and the end-user of mobile telephone service may be quite different from what it was in the past when these two roles were often performed by the same person. In the Ice Age, these roles will become more distinct, particularly for the business markets. Additionally, during the Ice Age, the consumer market will become a primary source of growth. These changing market dynamics will require providers to develop effective means to attract the targeted market segments. This requirement will be complicated by the fact that carriers can and will have overlapping target markets.

**Three tools which can assist a wireless provider in managing these changing customer dynamics effectively are brand enhancement, distribution management, and database marketing.** Brand enhancement is an iterative technique that assists in aligning the brand image to the competitive strategy. An audit is initially performed to determine whether the brand is properly aligned to the competitive advantage sought to be leveraged. If it is not, new objectives are set to achieve this alignment, and communications are developed to build the desired image

Knowing the value of each customer is critical to the successful deployment of customer loyalty programs. For example, a superior customer relationship provider may have a program to provide a temporary cellular phone and upgraded service to a customer experiencing problems with his or her current phone and service. However, this program could be very expensive if it is offered to all customers, regardless of the customer's average bill (e.g., \$10/month versus \$100/month).

When Mercury One-2-One offered a promotion of unlimited international calls on Christmas Day, the promotion quickly went from a marketer's dream of outstanding activation rates to an operator's nightmare of an overcrowded network, thousands of complaints, and poor service quality. Integrated product development could have assisted Mercury in understanding the interrelationship of product/service decisions and operations delivery, while still enabling it to bring the service to market quickly and effectively.

in the minds of the prospects. Distribution management techniques assist the wireless providers in determining the most effective methods of distribution and in managing those distribution methods to achieve a maximum return. Database marketing tools utilize a systematic approach to matching service offerings to prospects likely to be particularly receptive. Database marketing tools thus facilitate the direction of marketing efforts towards those potential customers which are most likely to respond to the competitor's value proposition.

#### 5.8.1.3 Tools for Customer Loyalty

As both revenue and subscriber growth begin to slow down in the Wireless Ice Age, reducing customer churn will become a critical issue. That criticality is heightened by the fact that more competitors will be vying for the same customers and will be increasing each other's churn. **Thus, in order to survive and maintain a disproportionate share of the revenue, providers will need to develop effective means to retain the most valuable customers.**

Two tools which can help develop this new approach are customer loyalty programs and sophisticated customer management systems. A customer loyalty program is a tool to provide incentives for customers to remain on the network and thus develop high switching costs. Whether the program rewards high-usage or continued subscriber status, its purpose is to reduce churn, particularly churn amongst the most valuable customers. Sophisticated customer management systems empower customer service personnel by providing them with the information and the authority to meet the customer's needs. Such systems also enable customer service personnel to pursue the agenda that the company wants to be worked with this customer. These systems will facilitate the most effective use of all interactions with the customer.

#### 5.8.2 Tools for Improving Operational Effectiveness

Whatever strategy is chosen, the proponent of that strategy must be extremely effective in maximizing the value of the sources of competitive advantage underlying that strategy. Certain tools and methods can be quite useful in aligning business operations and technology/organizational resources with strategy.

##### 5.8.2.1 Tools for Enhancing Business Operations

In the wireless industry, improvements in business operations are most easily identified by viewing the processes across functional lines. For the wireless industry, two cross-functional views are useful:

- **The product development stream:** As new products and innovations pour into the market place, providers must be able to manage the roll-out of new offerings effectively.
- **The revenue stream:** As the market becomes saturated, and price wars ensue, a stabilized revenue stream which captures every potential dollar of revenue as soon as possible will become essential.

*Proponents of different strategies will require different organization structures. A horizontal integration provider which packages long distance with cellular service will need to have one sales force, one customer service department, and one set of billing systems which effectively market, sale and support both long distance services and cellular services. A focused service superiority provider may choose to keep these organization units separate for each service, as well as for each type of customer to allow for greater flexibility.*

In relation to the product development stream, integrated product development methodologies supports all aspects of the product creation and deployment process, including process facilitation and improvement, product delivery and support, and technology development. The methodologies can offer the wireless carrier significant competitive advantage by reducing product development and major program initiative cycle times, thereby aligning the product development process with the overall business strategy and reducing the cost to introduce and support products and services in a competitive environment.

In relation to the revenue stream, revenue assurance techniques ensure that all calls placed on the network are appropriately accounted for and billed. The objective is achieved through four inter-related processes: establishment of operational control procedures at different points in the revenue stream, the definition of automated system strategies to assist in controlling the revenue stream, the establishment of new fraud control techniques, and the assignment of organizational responsibilities for each control.

#### **5.8.2.2 Tools for Improving Operational Resources**

During the Ice Age wireless providers not only need to ensure that their operations are aligned to support the business strategy, but they also need to ensure that the resources available to the provider (both technical and organizational) are properly allocated and aligned to support the strategy.

**Three Information Technology (IT) tools, in particular, are useful in achieving this goal: information systems planning, automation evaluation, and enterprise data sharing.** Information systems planning ensures that a company's IT plan is tightly integrated with the business strategy, and, therefore, able to support the needs of the company today, as well as its needs in the future. Automation is a tried and true approach for using IT to drive down costs. Several opportunities exist with wireless carriers to use this approach for reducing costs: automation of payments processing; automation of order processing; automation of network engineering and control; automation of customer service; and automation of sales/distribution or point of sale. Enterprise data sharing is a sophisticated IT approach capable of accessing and delivering detailed information on customers, distribution channels, calling patterns, costs, and more to multiple users within the organization. Each user within the organization uses the information for different purposes.

In relation to organization resources, two tools, organizational alignment techniques and vendor/partner integration, are particularly useful in maximizing the organizational resources of a wireless provider: Organizational alignment techniques can be utilized to assist in identifying and effectuating the required alignment of organizational structure to strategy. Vendor/partner integration can assist a service provider and its vendors align their strategies and business activities to accomplish their goals and objectives through mutual cooperation.

## 5.9 Need to Sustain Competitive Advantage

The figure below summarizes the sources of competitive advantage a competitor needs to obtain in order to effectively pursue a particular strategy and the tools which will help that provider execute that strategy effectively.

Critical Sources of Competitive Advantage and Tools for Each Strategy

### Lowest Cost Service

#### Critical Sources of Competitive Advantage

- Size
- Physical Resources
- Information Resources

#### Critical Tools

- Distribution Management
- Database Marketing
- Revenue Assurance
- Information Systems Planning
- Automation Evaluation
- Organizational Alignment

### Focused Service Superiority

#### Critical Sources of Competitive Advantage

- Functionality
- Time
- Brand Recognition

#### Critical Tools

- Marketing Decision Support Systems
- Market Analysis Modeling
- Distribution Management
- Database Marketing
- Integrated Product Development
- Information Systems Planning
- Organizational Alignment
- Vendor/Partner Integration

### Horizontal Service Integration

#### Critical Sources of Competitive Advantage

- Scope of Offering
- Information Resources
- Distribution Resources

#### Critical Tools

- Market Analysis Modeling
- Distribution Management
- Database Marketing
- Information Systems Planning
- Enterprise Data Sharing
- Organizational Alignment
- Vendor/Partner Integration

### Superior Customer Relationship

#### Critical Sources of Competitive Advantage

- Brand Recognition
- Incumbency
- Information Resources

#### Critical Tools

- Market Analysis Modeling
- Distribution Management
- Database Marketing
- Customer Loyalty Programs
- Customer Management Systems
- Information Systems Planning
- Enterprise Data Sharing
- Organizational Alignment
- Vendor/Partner Integration

*"The toughest thing about being a success is that you have to keep on being a success."*

**Irving Berlin  
(1888-1968)**

However, success is rarely achieved in one bold stroke. The creation of competitive advantage at any stage does not assure that such advantage will be sustained. In some industries, competitive advantage cannot be expected to last for more than one season and must, therefore, be recreated four times a year.

The accelerating rate of change in the wireless industry of which the Ice Age is a reflection, presents a challenge to any competitor in terms of its ability to sustain strategic advantage, and thus the strategy it is pursuing. For a competitor to sustain a strategic advantage over time, it must create new strategic advantages at a rate faster than the rate of change in the wireless industry because change dissolves past advantage.

Time has already been recognized as a source of competitive advantage, and time-based competition can take a variety of forms: faster time to market, faster response time to customers, and faster elimination of unnecessary costs.

In the Ice Age with its condition of revenue inadequacy, the inability to sustain

strategic advantage does not mean merely a lesser market share, but rather an inability to secure adequate revenue to survive.

No relief may be sought from a commitment to sustain competitive advantage, for that commitment and its fulfillment are conditions to survival. A competitor must adopt a program of continually applied pragmatism – an uninterrupted and unintermittible effort to plumb all sources of competitive advantage at all times as a matter of policy and not in reaction to the moves of other competitors. At its best, continuously applied pragmatism is a program to sustain a leadership position in a chosen strategic dimension by becoming a driver of change rather than a reactor to change.

## 5.10 Assurance of Capital Availability

The need to assure continued capital availability is self-evident. The inability to provide that assurance is a good reason not to enter competition in mobile telephony in the Ice Age. No strategy, however well formulated or executed, will generate financial self-sufficiency under Ice Age conditions for a very long time.

## 5.11 Last Word on Strategy

Lessons from evolutionary studies serve as a reminder of the need to develop effective strategies and alter them with changed conditions.

Species well adjusted to one era may find themselves helpless in another if they cannot sustain the competitive advantage they previously enjoyed. *Homo sapiens* have always relied upon their adaptive skills to meet new challenges. The evolutionary process is often simply too slow to provide a basis for responding to new conditions.

*"Although the antlers [of the Irish Elk] were useful at first, their growth could not be contained and, like the sorcerer's apprentice, the giant deer discovered only too late that even good things have their limits. Bowed by the weight of their cranial excrescences, caught in the trees or mired in the ponds, they died. What wiped out the Irish Elk? They themselves or, rather, their own antlers did... "Extinction is the fate of most species, usually because they fail to adapt rapidly enough to changing conditions of climate or competition. Darwinian evolution decrees that no animal shall actively develop a harmful structure, but it offers no guarantee that useful structures will continue to be adaptive in changed circumstances. The Irish Elk was probably a victim of its own previous success. Sic transit gloria mundi."*

**Stephen Jay Gould,  
"The Misnamed, Mistreated, and Misunderstood Irish Elk," in  
Ever Since Darwin (1977)**

*"The race is not always to the swift, nor the fight to the strong,  
but that's the way to bet."*

**Ring Lardner**  
**(1885-1933)**



# Conclusions

*"We may infer from these facts, what havoc the introduction of any new beast of prey must cause in a country, before the instincts of the aborigines become adapted to the stranger's craft or power."*

Charles Darwin  
*Journal of Researches (1839)*

The historian, with whose writing this monograph began, continued his history of the wireless industry by writing of the Ice Age as follows:

*"To informed inhabitants of the wireless world, the Ice Age provided few surprises. Those inhabitants who had prepared for the worst, formulated a strategy, and sharpened their survival tools, lived through that period, although not without severe difficulty. Other inhabitants did not heed the warnings and were caught unprepared for the hostile conditions which ensued by which, in time, they were destroyed."*

*"In the Ice Age, competitors emerged with effectively executed price strategies. Those fierce price competitors were widely regarded as being responsible for bringing on the Ice Age. In reality, however, the worst was yet to come."*

*"A downward price spiral developed, and desperate actions by those facing extinction only made matters worse. They began to slash prices in efforts to recover some part of their initial capital investments. However, those actions only hastened their own extinction and that of others."*

*"Survivors of the Ice Age included only those who adapted to the harsh conditions and those who were big enough and strong enough to weather those conditions prepared or otherwise."*

*"Those who were able to adapt to the Ice Age had anticipated its challenges and begun their preparations before that period was well underway."*

*"The larger wireless players had the resources to face the hostile conditions of the Ice Age. Their corporate survival was not in doubt; but the reputations of those who relied upon their strength alone and did not prepare for the Ice Age have been irreparably tarnished."*


*"The discovery of dinosaurs in the nineteenth century provided, or so it appeared, a quintessential case for the negative correlation of size and smarts. With their pea brains and giant bodies, dinosaurs became a symbol of lumbering stupidity. Their extinction seemed only to confirm their flawed design... Dinosaurs have been making a strong comeback of late... Most paleontologists are now willing to view them as energetic, active, and capable animals... The remarkable thing about dinosaurs is not that they became extinct, but that they dominated the earth for so long."*

**Stephen Jay Gould**

**"Were Dinosaurs Dumb?" in *The Panda's Thumb* (1980)**







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